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EDUCATIONAL RESEARCH BULLETIN: ERB

CURIOSITY, I.Q., AND RETENTION

DO YOU NEED AN AUDIO-VISUAL INSTRUCTOR?

HIGHER EDUCATION, 1978

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NOVEMBER 8, 1961

COLLEGE OF EDUCATION
THE OHIO STATE UNIVERSITY

Vol. XL, No. 8

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NOVEMBER 8, 1961
Vol. XL, No. 8

Information Recognition by Children with High and Low Curiosity[1]

By WALLACE H. MAW AND ETHEL W. MAW

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SINCE the publication of Ebbinghaus' *Memory: a Contribution to Experimental Psychology* in 1885,[2] researchers have sought answers, if not the answer, to the problem of individual differences in retention. Hypotheses have been suggested and submitted to empirical investigation; however, the results obtained have left many questions unanswered. Much of the research has dealt with tests of meaningful material versus tests of nonsense material, recall versus recognition, and specific ability versus the involvement of the entire personality.[3]

In the present study, it was hypothesized that retention in children is determined, at least in part, by the level of their curiosity about their environments in general. If this hypothesis is true, children who have high curiosity should retain more information from the same lesson than those with low curiosity, even when their I.Q.'s are similar.

Writings dealing with curiosity, including ancient and modern opinions, theoretical statements, and research with subhuman species, were reviewed and a definition of curiosity was formulated. According to this definition, an elementary-school child may be considered to exhibit curiosity to the extent that he:

1. Reacts positively to new, strange, incongruous, or mysterious ele-

[1] The research reported here was performed in accordance with a contract with the United States Office of Education.

[2] Translated by Henry A. Ruger and Clara E. Bussenius. New York: Teachers College, Columbia University, 1913.

[3] *See* Carl I. Hovland, "Human Learning and Retention," pp. 613–89, in *Handbook of Experimental Psychology*, ed. S. S. Stevens. New York: John Wiley and Sons, Inc., 1951.

ments in the environment by moving toward them, exploring them, or manipulating them.
2. Exhibits a need or a desire to know about himself and his environment.
3. Scans his surroundings seeking new experiences.
4. Persists in examining and exploring stimuli in order to know more about them.

In order to test the hypothesis, the following steps were taken:

1. Children with high and low curiosity were identified.
2. Suitable story material was prepared and presented to one group of children during December, 1960, and to another group during March, 1961.
3. After an interval of one week, the children in each group were asked to answer questions based on the story.

The method of identifying children differing in curiosity is discussed in detail elsewhere.[4] Briefly, it consists of the rating of pupils by their teachers, their peers, and themselves on special instruments based on the definition of curiosity. In the present study, two ratings were made at different times by the teachers. The resulting four ratings were combined into a composite rating for each child. These were found not to be influenced by race, sex, or popularity. There was, however, a low, but significant, relationship between the ratings and tested intelligence. Therefore, matching on the basis of I.Q. seemed imperative. The composite ratings on curiosity for each classroom were arranged from high to low, and curiosity groups were established by matching pupils in the upper half of the ratings with pupils of approximately equal tested intelligence in the lower half. Pupils in upper and lower thirds were matched in a similar manner. This process resulted in groups that were somewhat less than one-half or one-third of the total, since the number of pupils in each room was not always even and since some I.Q.'s could not be matched. Table I shows the number of pupils in the matched curiosity groups taken from the children tested. It indicates the mean age in months and mean Lorge-Thorndike verbal and nonverbal intelligence quotients for each group.

[4] Maw, Wallace H., and Maw, Ethel W. "Establishing Criterion Groups for Evaluating Measures of Curiosity," *Journal of Experimental Education*, XXIX (March, 1961), pp. 299–305.

THE first sample was drawn from a school district specifically selected because its pupils were considered fairly representative of elementary-school children generally. The second sample was drawn at random from suburban schools in New Castle County, Delaware. In this area, the ratio of highly skilled persons to the total population is large because a number of scientific personnel associated with major chemical industries and many of the faculty of the State University live here. These

TABLE I

NUMBER, MEAN AGE, AND MEAN LORGE-THORNDIKE VERBAL AND NONVERBAL I.Q.'S FOR UPPER- AND LOWER-CURIOSITY GROUPS

Time of Test	Curiosity Group	*N*	Mean Age in Months	Mean Verbal I.Q.	Mean Nonverbal I.Q.
(1)	(2)	(3)	(4)	(5)	(6)
December 1960	Upper Half	51	128.92	103.71	100.61
	Lower Half	51	127.42	103.80	100.24
	Upper Third	31	129.03	103.29	101.71
	Lower Third	31	129.54	103.32	99.97
March 1961	Upper Half	229	130.72	115.30	110.05
	Lower Half	229	130.93	115.57	110.54
	Upper Third	124	130.30	115.73	110.99
	Lower Third	124	130.98	115.76	111.01

particular samples were used in order to test the hypothesis with widely differing groups, both of which are in the same state school system and, therefore, follow similar curriculums.

In December, 1960, a story was read to 145 fifth-grade pupils in seven classrooms. In March, 1961, the same story was read to 749 pupils in twenty-five classrooms. The children were given copies of the story and were asked to follow it as it was being read. The story was a collection of strange but true facts, mostly about animals. It was written as if it were a report that a pupil might make about a trip to the zoo. The story comprised three single-spaced, typewritten pages. Following is a typical paragraph:

> The guide told us that all animals need water. Even camels drink water when it is around. The guide said he had never seen a prairie dog drink water. The prairie dogs lived in little burrows and kept coming out, looking around and then scampering into their holes. The guide also told us about the Koala Bear from Australia that gets its water by eating plants when they are covered with dew.

At the end of the story, the pupils were asked whether they

liked it and what one thing they liked best about it. Nothing more was said; as far as they were concerned, the test was completed when they answered the two questions.

Seven days later a forty-item true-false test was administered to the pupils. Typical of the items are the following:

..... a. The liger has a mother that is a tiger and a father that is a lion.

..... b. The zoo keeper has to give prairie dogs a lot of water or they will die.

..... c. Giraffes "talk" with their tails.

The test was read statement by statement as each pupil followed on his own sheet and answered the questions.

TABLE II

MEAN, STANDARD DEVIATION, AND SIGNIFICANCE OF DIFFERENCE BETWEEN MEANS OF RETENTION SCORES OF CHILDREN IN UPPER- AND LOWER-CURIOSITY GROUPS

Time of Test	Curiosity Group	Mean	Standard Deviation*	t	Level of Significance†
(1)	(2)	(3)	(4)	(5)	(6)
December 1960	Upper Half	15.89	6.80		
	Lower Half	10.19	6.79	3.37	$< .01$
	Upper Third	17.36	6.64		
	Lower Third	9.24	5.84	4.25	$< .001$
March 1961	Upper Half	19.43	6.09		
	Lower Half	17.18	6.43	3.81	$< .001$
	Upper Third	19.29	6.37		
	Lower Third	17.01	6.72	2.65	$< .01$

* The differences between the standard deviations were found to be insignificant when tested by the F test.

† Two-tailed test.

Table II shows the mean, standard deviation, and significance of difference between the means of the high- and low-curiosity groups for both upper and lower thirds and upper and lower halves. Differences between standard deviations are small and were found by the F test to be insignificant. Tests of significance show that in each case the difference between the means is highly significant, always in favor of the high-curiosity group.

IT APPEARS then that something other than verbal or nonverbal intelligence is operating in the process of retention. In the present study, the tasks were completely verbal; yet children judged to be higher in curiosity remembered more of the mate-

rial after one week than did children of matched verbal intelligence who were judged lower in curiosity.

The evidence seems to indicate that children with a high level of curiosity learn more from a given period of exposure than do children of low curiosity or, at least, that they remember what they learn longer; it is possible that both are true. Children who generally scan their environments looking for new information will find more in the stimuli than will those who are apathetic to their surroundings. It is reasonable to suppose that children with high curiosity, having a greater desire to know, will keep examining the story by thinking about it and will actually be closer to it at the time of the testing than will children of low curiosity. Perhaps further studies will show that the amount of information retained between the presentation of material and the testing is not only a function of so many minutes, hours, or days but is also related to the level of curiosity of the learner.

At least two questions regarding teaching practices arise from this interpretation: Would it not be beneficial in forming subgroups within a classroom to consider the attribute of curiosity? If curiosity is important in retention, are there ways in which teachers can increase it in their pupils?

It is usually the case that whenever subgroups are organized within a classroom, the purpose is to obtain groups that are homogeneous in some respect; for example, dividing an elementary-school class into reading groups is for the purpose of obtaining groups similar in reading ability. Teachers are well aware of the fact, however, that grouping on the basis of achievement or tested intelligence does not take into account all individual differences.

In the present study, individual differences stand out clearly. In the higher-curiosity group, Child A with an I.Q. of 90 recognized more of the story material one week later than did any child in the lower-curiosity group where the mean I.Q. was over 100 and where the I.Q.'s of some children were over 120. Another child in the higher-curiosity group with an I.Q. of 80 equaled or surpassed one-fourth of the children in the lower group, although the mean of their I.Q.'s was 13 points higher than his. Not a single child among the ones this child exceeded had an I.Q. as low as his. In one classroom a girl in the high-curiosity group recognized more than three times the amount of material recognized by another girl of equal I.Q. and in the same class but in

[*Continued on page 223*]

Higher Education, 1978—an Enrollment Forecast

By RONALD B. THOMPSON

Mr. Thompson is executive dean of special services at The Ohio State University.

How large a college-age population will Ohio have in the years ahead? How many of these persons can be expected to attend an institution of higher education?

In planning for future needs, college and university officials must know how large an enrollment to expect. It is likely that the tremendous increases will continue at an even greater rate during the next two decades, as Figure 1 demonstrates. The birth rate in the United States has increased from under two and one-half million in 1930 to almost four and one-half million in 1960 (*see* Figure 2). In addition, the proportion of persons attending college is growing.

On the basis of certain data and trends that have been established, it is possible to predict enrollment figures with considerable accuracy.[1] Of course, all predictions are made assuming that there will be no major changes on the local or state level or on the world scene.

The present forecast was made on the assumption that the 18 to 21-year age group forms the basis for enrollment in higher education in the United States. Although college and university enrollment includes a relatively few students under 18 and a large number over 21 years of age, especially in the graduate and professional colleges, a higher correlation has been found between this age group and total college attendance than between any other age group and total attendance. In making projections, it was assumed also that the migration trends and college- and university-attendance trends established over the past ten years would continue.

EDITOR'S NOTE. This article is based on the author's report, *Enrollment Projections for Higher Education 1961–1978*, sponsored by the Enrollment Studies Committee of the American Association of Collegiate Registrars and Admissions Officers and issued in September, 1961.

[1] Using the procedures indicated here, the writer estimated in 1954 that the total college population in 1960 would be 3,616,531 (see *The Impending Tidal Wave of Students*, American Association of Collegiate Registrars and Admissions Officers); the actual enrollment for 1960 was 3,610,007.

The definition for enrollment was taken from the U. S. Office of Education. It includes all students, full- and part-time, registered for credit to be applied toward a bachelor's or a higher

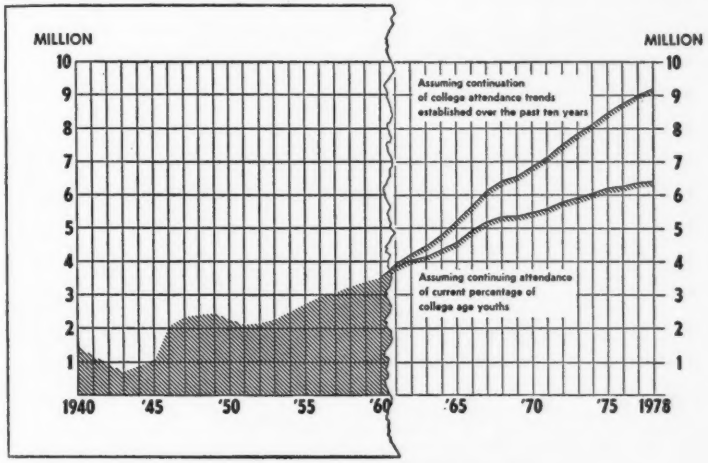

Fig. 1. Projected enrollment in higher education.

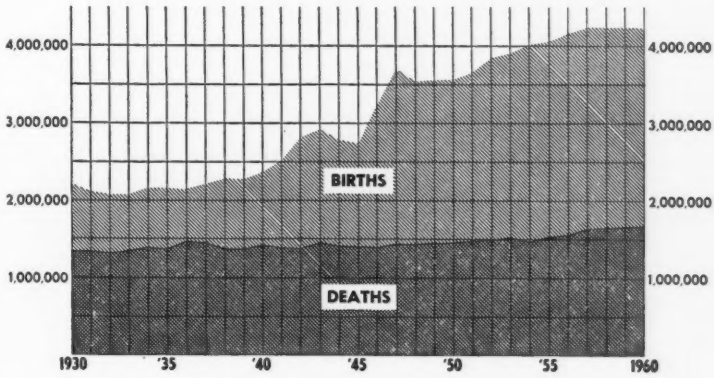

Fig. 2. Births and deaths in the United States—1930–1960.

degree. It excludes those registered for such credit but taking work at home by mail, radio, or television.

The figures on enrollment in higher education were obtained from the same Office and those on particular age groups from the 1950 and 1960 Censuses. Projected enrollment figures were based

TABLE I

PROJECTED COLLEGE-AGE POPULATION FIGURES AND COLLEGE-ENROLLMENT ESTIMATES FOR OHIO AND THE UNITED STATES THROUGH 1978

YEAR	OHIO			UNITED STATES		
	Total 18–21 Years of Age	ENROLLMENT		Total 18–21 Years of Age	ENROLLMENT	
		Estimate A	Estimate B		Estimate A	Estimate B
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1960.....	475,990	175,139		9,167,801	3,569,071	
1961.....	509,280	187,415	191,489	9,821,789	3,835,268	3,933,756
1962.....	529,611	194,897	203,371	10,285,150	4,029,188	4,234,769
1963.....	538,458	198,153	211,076	10,569,177	4,157,230	4,472,091
1964.....	560,708	206,341	224,283	11,029,249	4,346,797	4,783,776
1965.....	607,524	223,569	247,870	11,714,268	4,566,445	5,206,493
1966.....	658,062	242,167	273,754	12,402,172	4,907,715	5,644,481
1967.....	717,743	264,129	304,323	13,196,721	5,227,495	6,142,515
1968.....	736,226	270,931	318,050	13,455,574	5,332,904	6,398,911
1969.....	737,232	271,301	324,382	13,480,321	5,341,532	6,542,944
1970.....	756,109	278,248	338,737	13,761,302	5,455,625	6,816,905
1971.....	775,957	285,552	353,836	14,099,356	5,595,825	7,127,280
1972.....	811,834	298,755	376,691	14,561,910	5,781,369	7,503,449
1973.....	833,776	306,830	393,542	14,889,863	5,922,229	7,825,872
1974.....	860,481	316,657	413,031	15,222,296	6,054,480	8,144,158
1975.....	892,198	328,329	435,393	15,567,173	6,236,274	8,480,676
1976.....	903,836	332,612	448,303	15,761,824	6,279,255	8,740,900
1977.....	915,335	336,843	461,329	15,951,376	6,361,599	9,002,162
1978.....	912,180	335,682	467,036	16,041,274	6,410,827	9,217,217

on the relationship between the number of college-age persons (18–21) in a state and the actual college enrollment there over the past ten years. On the basis of these data, two enrollment forecasts—Estimates A and B—were made for each state and also for the United States for the next eighteen years. Estimate A was completed on the assumption that the 1960 relationship between the college-age group and college attendance would remain constant. This, however, does not seem realistic in light of the increasing percentage of persons who actually attend college. Estimate B, therefore, took into account these increases, as indicated by college-attendance trends established over the past ten years.

TABLE I presents projections for Ohio and the United States.[2] It shows total population figures for the group 18 to 21 years of age and enrollment Estimates A and B for each year.

Examination of the table leads to certain significant observations in respect to college enrollment in the United States and particularly in Ohio. It seems likely that by 1978 college enrollment in the United States will be almost triple the figure for 1960—9,217,217 as opposed to 3,569,071. If the present ratio of college students to the total college-age population remains constant, which seems unlikely, the enrollment in 1978 will be almost double—6,410,827.

Based on Estimate B, the following observations can be made:

1. In just ten years, by 1971, college enrollment in both Ohio and the United States will have increased 100 per cent over the 1960 figure.

2. There will be a greater increase in college-age population in Ohio than in the United States as a whole. By 1978 this age group will have increased more than 90 per cent in Ohio, less than 75 per cent in the United States.

3. By 1978 total college enrollment in Ohio and the United States will be equal to over 50 per cent of the college-age population—51 per cent in Ohio and 56 per cent in the United States. In 1960 the proportion in Ohio was 37 per cent; in the United States, 39 per cent.

4. In 1978 there should be almost as many persons in Ohio

[2] Similar data are given for each state in the writer's report, *Enrollment Projections for Higher Education 1961–1978*. Copies may be obtained from the Publications Office, American Council on Education, 1785 Massachusetts Avenue, Washington 6, D. C.

[*Continued on page 224*]

Do You Need an Audio-Visual Director?

By HERMAN TRUBOV

Mr. Trubov is director of the New Media Laboratory at The Ohio State University.

BECAUSE of the multiplicity of audio-visual devices available, the development of a well-organized comprehensive program of audio-visual instructional services becomes increasingly important. Nevertheless, a considerable proportion of the public-school systems of Ohio do not have an individual attached to the administrative staff whose primary responsibility is to provide such a program for the teachers of his system. In some cases such a staff member is called the audio-visual director or co-ordinator. In others he may be known as the audio-visual communications specialist, director of instructional materials, new media supervisor, or have a similar title to indicate his responsibility in this area.

Some school officials take the position that they have no need for such a person. They argue there are motion-picture and filmstrip projectors in every building, and in some, even a tape recorder. The high school has a television set. Miss Jones, the fourth-grade teacher, shows a film to her class every Friday. Miss Smith, the principal's secretary, does a fine job of ordering the films and seeing to it that they get back to the library on time. Mr. Brown, the custodian, gets the projector to the proper room, and may even show films for those teachers who have not yet learned to operate the machine. With these facilities and this kind of co-operation, they maintain that an audio-visual director is unnecessary.

In other school systems staff members exist who, it is claimed, perform the audio-visual director's functions adequately even though they may not have that formal title. The industrial-arts teacher may be such a person. Having taken Education 602, the audio-visual course at Ohio State, he seems well qualified to carry out these functions. He does a magnificent job of keeping the equipment in repair and has taught at least half of the teachers at the high school how to operate the projectors. His teaching load has been cut so that he now has two hours a day which he can devote to his new functions. He comes on Saturdays to check equipment and get things ready for the coming week. The indi-

vidual audio-visual activities of the teachers in this system also are a source of pride. They, too, firmly believe that they do not need an audio-visual director.

It would be so easy if we could write such systems off as being backward, unconcerned, and unaware of the challenge which American education faces today. But we cannot. In such systems there is clearly a very deep concern for the education and welfare of the children. Responsible persons feel strongly about their need to meet the challenge which is posed by our technological growth. They want a citizenry prepared to cope with the pressures from the left and the right. They have heard of educational television, language laboratories, and teaching machines, and they want to utilize every means to make learning more meaningful and more profitable.

Despite this very real desire on the part of school-board members, administrators, and teachers to improve instruction, a thorough program of audio-visual instructional services may not exist:

> An effective audio-visual service program doesn't just happen for a city school department, a county, a church, or for an industrial company. It is most likely to happen, however complex the environment, in locales where leadership for it exists on at least two levels. The first of these is the leadership in facilitating the inauguration of an operational plan of service, arising at the top administrative level of any organization. Such leaders must take overt action regarding the use and support of audio-visual instructional materials, and they must exercise skillfully the executive function of selecting a qualified person to implement the plan of action envisioned or the plan legislated by school boards or other law or policy-making groups. At the second level is the indispensable leadership of an individual who is charged with responsibility for developing and maintaining a service program.[1]

But just what constitutes a qualified person? Or, to put it another way, what is an audio-visual director? Quite simply, he is an educator who, by his training, his experience, and his philosophy is committed to the improvement of instruction at all levels and in all areas. The tools of his trade consist of his competencies in the educational areas of communication, curriculum, methodology, and evaluation. Using these, he assists the teacher in defining or redefining teaching goals and in evolving new methods or modifying and strengthening old ones.

[1] Erickson, Carlton W. H. *Administering Audio-Visual Services*. New York: Macmillan Company, 1959, p. 3.

Through his competency as an audio-visual communications specialist, he knows what materials of instruction are available. A teacher who needs help in making a science unit more meaningful for his students may come to him for information about films, filmstrips, recordings, or field-trip possibilities. The audio-visual director is familiar with the various media and understands their potentials and limitations. He brings to the teacher his skill in the production of materials to create new ways to solve specific problems. He may help design an exhibit, a bulletin board, posters, or a set of overlay transparencies for the overhead projector.

As a curriculum specialist, he is engaged in the role of supervisor of instruction. He helps the teacher to utilize instructional materials more effectively. He provides facilities which enable the teacher to preview materials properly before using them, and he is able to suggest follow-up activities to reinforce the initial experience. His is an integral part in the formation and implementation of an in-service program designed to improve the quality of instruction. Meeting with groups of teachers who face common teaching problems, he helps them to explore possible solutions and then plays a leading role in implementing these through the acquisition, production, evaluation, and utilization of instructional materials.

The audio-visual director is cognizant of the problems involved in measurement and evaluation. He helps the teacher devise tests, design experiments, and ask the kinds of questions which provide useful yardsticks to measure the effectiveness of methods and materials in terms of previously stated goals.

He is an administrator, assisting in the formulation of policy and assuming responsibility for implementing that policy as it affects his areas of specialization. He is prepared to submit, justify, and administer a budget for his program. He can do this only if he knows what is needed in the way of physical plant, personnel, and services for the proper functioning of a comprehensive audio-visual instructional program.

Is such an audio-visual director a paragon who, if he did exist, would be unavailable to the ordinary school system? On the contrary. Not only does he exist in large numbers throughout the nation, but the potential for this kind of leadership can be found among individuals in our own communities—individuals who are

[*Continued on page 224*]

EDITORIAL COMMENT

The Bureau Looks Ahead

THE Bureau of Educational Research and Service this year celebrates its fortieth anniversary as a department of the College of Education of The Ohio State University. The Bureau was created in 1921 according to the mandate of Section 7654-6 of the New School Code of 1914, which provided that "there shall be established in the College of Education of The Ohio State University . . . . a department of efficiency tests and survey." When first organized, it carried the name Bureau of Education and Mental Measurements, but this was changed almost immediately to the Bureau of Educational Research. The present title was adopted in 1957, when it was formally merged with the Bureau of Special and Adult Education.

Despite many changes in divisions and personnel over the years, the organization of the Bureau remains far from complete. A substantial projected reorganization is in fact currently under consideration; this will be the subject of the Editorial Comment in the December issue of the BULLETIN. Suffice it to say at present that the proposed structure breaks with tradition in two ways: the Bureau shifts in emphasis from *doer* of research and service to doer *and* facilitator, and it takes responsibility for the educational research and service effort throughout the College of Education. The extent to which the new role differs from the old can be judged, from one perspective at least, by a look at the recent (September, 1961) restatement of Bureau objectives:

1. To maintain a *base* or *floor* of research and service activities for the purpose of: making a continuing and systematic contribution to the expansion of educational knowledge and the improvement of educational operations, providing a way for the continuous assessment of current and emerging educational needs, and maintaining working relationships with public schools and other educationally oriented institutions and agencies. In this connection the Bureau fulfills two roles:
   a. The role of *theoretician*. The Bureau promotes those research and service activities that contribute to the evolution of a basic theory and science of education.

b. The role of *developer*. The Bureau promotes applied research and service activities that make theory operational, that field-test operational consequences of theory, and that convert tested findings into a form usable in the practical school situation. This implies that development activities should be selective, exploratory, and demonstrational in nature; but this implication does not militate against the idea of "service for service's sake," insofar as limited resources permit.

2. To serve as the educational research and service arm of the College of Education. This statement implies Bureau involvement in five additional roles:

   a. The role of *prime mover*.[1] In this role the Bureau generates, organizes, stimulates, co-ordinates, and focalizes the educational research and service efforts of the College, and helps bring to bear the energies and resources of a variety of disciplines on educational problems. A fruitful analogy is that of the Bureau as a vortex, setting events into motion which, by their energy, gradually draw in more and more personnel and resources from outside Bureau boundaries.

   b. The role of *entrepreneur*. In support of its role as prime mover, the Bureau as an entrepreneur procures and invests "risk capital" in promising persons or ventures, supporting exploratory work, financing consultations with foundations and other funding agencies, bridging gaps between ventures, and like activities.

   c. The role of *technical consultant*. Research and service are complex activities requiring a high degree of technical knowledge and skill. The Bureau aims to maintain a core of specialized personnel who can advise and assist in designing, performing, analyzing, interpreting, and reporting research and service activities.

   d. The role of *administrative assistant*. Research and service projects are operationally complex, involving budgeting, staffing, equipping, accounting, monitoring, and terminating activities. The Bureau intends to maintain a core of personnel who can advise and assist in these activities.

   e. The role of *space manager*. Research and service projects must be housed and serviced. The Bureau seeks to make

[1] It should be noted that a *prime* mover is not necessarily the *sole* mover. The Bureau does not arrogate to itself sole authority and responsibility in these matters.

available space and facilities for the operation of such projects, providing an "administrative home" for them.

3. To serve as a clearinghouse for distributing research and service findings. The Bureau has a public responsibility to collect, evaluate, report, and distribute relevant and reliable research and service information, including resource materials.

4. To make the research services of the Bureau available to the University as a whole. The educational and instructional problems of the University will become much heavier in the future, calling for a new emphasis on institutional research in all forms. The Bureau serves upon request as the investigative arm of the University on educational problems.

5. To augment the instructional program of the College insofar as:
   a. The instruction will be materially broadened by the research and service experience of the Bureau staff members.
   b. The instruction deals directly with those specialized programs or courses necessary to the training of research or service personnel.
   c. The instruction contributes directly to the research or service programs of the Bureau through the training of professional personnel, not necessarily research or service workers.
   d. The instruction contributes to the professional growth of the Bureau staff members in areas relevant to the research and service program of the Bureau.
   e. The instruction is itself experimental, contributing to the development of a new area of education.

6. To serve as the University's educational research and service representative to the state, region, or nation, co-operating with state, regional, and national agencies in the support of educational research and service programs.

7. To render to students of the College of Education certain services which, because of their experimental nature or because of their evident relationship to ongoing Bureau activities, are best housed in the Bureau rather than in some other administrative unit of the College.

It is clear that at the moment, the Bureau is, both in terms of posture and of resources, far from being able to achieve these objectives. Yet it is also clear that they differ markedly in intent

from, say, the statement of objectives listed in the brochure, "The Bureau of Educational Research: the Work It Does; the People It Serves," published as a public-relations piece in 1951. Some thirty-three statements which may be construed as objectives are listed there; a sampling of these follows:

Training educational research workers.
Cataloging and indexing all professional educational publications and preparing bibliographies in specialized fields.
Planning demonstrations in the Visual Demonstration Center for instructors and students in various courses.
Assisting faculty members and students in carrying on research studies.
Obtaining and scheduling motion pictures, filmstrips, slides, and recordings for university classes.
Publishing and distributing the *Journal of Higher Education,* the EDUCATIONAL RESEARCH BULLETIN, and the *News Letter.*
Conducting research studies on various phases of public education, mass communication, and the readability of publications.
Providing evaluation instruments dealing with human traits and achievements.
Conducting an annual exhibition of outstanding educational radio and television programs.

Even a casual comparison of these two listings of objectives will indicate the sharp changes that have taken place in the Bureau's sense of direction over the past decade. There can be little doubt that the objectives of ten years ago represented a systematic and useful approach to the problems and needs of that time. The intervening ten years, although short when compared to the full term of the Bureau's existence, have been overwhelming in the new demands and crises they have posed for the professional educator. Presumably the new objectives and the new organization are responsive to these changes. How successful and how viable this orientation will be remains to be seen.

EGON G. GUBA

READINGS

Books to Read

PECK, ROBERT F., *et al. The Psychology of Character Development.* New York: John Wiley and Sons, Inc., 1960. xx + 268 pp.

Character is something which everyone talks about, but few understand. We sometimes innocently believe that character can be preached, that it can be taught in schools, transmitted in clubs and organizations, exhorted in books, and even editorialized in newspapers. There is some truth, to be sure, in these observations. Despite all these approaches, good character still seems elusive and social disorganization grows from day to day.

In the face of all this confusion, we are especially indebted to Professors Robert F. Peck and Robert J. Havighurst and their associates for their scientific and perceptive approach to character development. They have compiled careful and well-documented studies of one hundred twenty selected children living in a small midwestern town known as Prairie City. This research, stretching over a period of sixteen years, covers in detail by questionnaires, psychological tests, and interviews the moral and character development of a fairly homogenous group of young people from a socially and politically integrated city; approximately 90 per cent were native-born and evidenced an all-American ethnocentrism. For seven years, from ages ten to seventeen, these children were carefully studied by competent psychologists and researchers.

For the purposes of this research, five character types were isolated and analyzed—the amoral, the expedient, the conforming, the irrational-conscientious, and the rational-altruistic. In studying the development of character, the authors further deal with six dimensions of personality—moral stability, ego strength, superego strength, spontaneity, friendliness, and a hostility-guilt complex.

Scientific analysis in this comprehensive study reinforces the impression held by many that character is predominantly shaped by family experience and that a child's personality is already strongly indicated at the age of ten. As the authors point out, "a child's emotional maturity, personality integration, autonomy, rationality of behavior, and his willingness to adapt to society's expectations appear to be directly related to the degree of consistency, Mutual Trust, and mutual approval he experiences within his family" (pages 104–105). In the concluding chapters, the word *love* is used in this connection as a controlling factor in developing such behavior patterns.

The other forces in a child's life, this study reveals, play at best a secondary role. Peer groups usually act to reinforce or crystallize behavior patterns already present. Institutions such as schools, churches, and youth

clubs are credited with 10 per cent or more direct influence on the child's values in only four cases. In no case, strangely enough, was there an appreciable effect on character from movies, radio, or reading. Movie actors, athletes, and like persons were seen to have little influence on the young people studied. Clergymen are mentioned in only a few cases as a significant source of influence.

The adolescent group labeled *rational-altruistic* is pictured as still growing psychologically and still open to further character development. The rational-altruistic type has a positive feeling toward parents and thus toward the world. These young people are both well loved and loving. This category combines ethical desire with ethical intelligence.

The danger to our society, the authors point out, is that most adults still treat children in a manner that fosters a conforming or irrational-conscientious character. It is no accident, therefore, that there are relatively few people who are or ever will become psychologically and ethically mature. Although the authors significantly remind us that the most practical standard for both personal happiness and social stability is the golden rule, their studies confirm the fact that this type of personality is not the result of exhortation or preaching. Young people usually do as we do, not as we say. The distinguished pastor, Harry Emerson Fosdick, once made a similar observation when he said "religion is caught, not taught."

If we are to develop the ethical imperatives of American life, the authors assert, we need more of the rational-altruistic type of character resulting from persons with inner security and ethical understanding. "The only way to beget dependably stable, sincerely motivated, ethical behavior from others is to treat them in exactly this way" (page 200).

The prescription is, of course, easier than the cure. To translate the effects of these studies into socially desirable character, we need not only good and mature parents, but the added tools of psychology and psychotherapy, the reinforcement of constructive child-study and family-life techniques, and the intelligent support of community resources like schools, churches, and social organizations. We also require more adults who recognize that society grows best as we make men free and as we transform hostility, overt or covert, into love and maturity.

This book may be read with profit by teachers, school boards, clergy, and civic leaders. Its conclusions bear directly and indirectly on some of the sensitive and controversial questions of the day—religion in the public schools, the teaching of ethics and ethical values, and the whole role of public education in developing thinking and critical citizens, instead of conforming and unquestioning young people. Studies such as this raise questions about the whole meaning of American democracy and democratic ideals and how young people can be effectively taught and motivated in the home, school, church and synagogue, and, of course, the community.

RABBI HARRY KAPLAN

LAWSON, REED. *Learning and Behavior.* New York: Macmillan Company, 1960. xii + 448 pp.

A potential author of an undergraduate textbook on learning must decide whether he ought to employ some organizing theme to which he can fit the data, or whether a more eclectic, nonsystematic approach is preferable. Mr. Lawson, of the Department of Psychology at The Ohio State University, has wisely chosen the former. With considerable agility he has woven the major empirical findings of that amorphous area we call *learning* into a Stimulus-Response-Reinforcement scheme. The result is a very readable, thought-provoking book that should be of considerable value to students and their teachers. A student using this book will not only become familiar with the standard material that we expect him to learn (features of Pavlovian and operant conditioning, transfer of training, motivation, incidental learning, knowledge of results, and so on), but will also develop a frame of reference in which to place these diverse phenomena. The level of presentation seems quite appropriate for the undergraduate, but still leaves room for the teacher to perform his classic duties, such as explaining the nature of "parametric work."

Though he employs a model, it was not the author's intention to write a theoretical book. Rather, he sought to identify the three aspects of the model—stimulus, response, and reinforcement—in each learning situation that he considered. It can thus be said that the book is based upon low-order observational laws, invoking higher-order theoretical concepts only occasionally and in a way that should tease the student to further inquiry. There are those who hold that the model employed is not adequate to handle all of the relevant phenomena. In answer to such adversaries, Lawson devotes Chapter 9 to "Learning Situations that Do Not Seem to Fit the Model."

It is well that the title of the book includes both "learning" and "behavior" because of the emphasis throughout on the role of reinforcement. The author is somewhat inconsistent in his effort to avoid the complex question of whether reinforcement affects learning (habit) or only performance. Although he states that he does not want to commit himself one way or the other on the question of reinforcement as a necessary condition for learning (page 121), he implies elsewhere that reinforcement does affect habit strength; for example, "Delays in reinforcement . . . affect the strength of a given habit indirectly . . ." (page 161), and "Some psychologists doubt that reinforcement is as essential to learning as has been presented here" (page 291). This difficult question will not be decided for a long time, and any effort to deal with it, even by trying to avoid it, should be evaluated with an appreciation of its complexity.

Occasionally certain statements might have been put otherwise. For instance, instead of saying that ". . . the organism is *always* doing something unless it is unconscious . . ." (page 160), it would be more accurate

to say "unless it is dead," for behavior continues even in the state of unconsciousness. Similarly, rather than say that a secondary reinforcer (stimulus) is subject to extinction (page 258), it would be preferable to say that it loses its ability to act as a reinforcer. And to state that the whole method of learning is ". . . . a kind of *massed* practice" (page 412) is, at best, not presenting the whole story (cf. McGuigan, F. J., "Variation of Whole-Part Methods of Learning," *Journal of Educational Psychology,* 1960, Vol. 51, pp. 213–16). But in view of the total product, such comments are pedantic. The book is soundly written and is highly recommended.

F. J. McGuigan
Hollins College

Frazier, Alexander, and Wigren, Harold, editors. *Opportunities for Learning: Guidelines for Television.* Washington, D.C.: National Education Association, 1960. 80 pp.

This publication is a report of a seminar held at NEA headquarters in May, 1959. The participants were leaders in several fields—curriculum, educational broadcasting, audio-visual instruction, psychology, and classroom teaching.

The purpose of the meeting was to secure an exchange of informed opinion on two questions: What should the design and nature of television programs planned for classroom viewing be? and How can we program effectively for learning on television? (page 3).

The booklet is divided into three sections: "The Framework," "Personal Statements," and "Guidelines for the Future." The first section is an excellent distillation of widely accepted generalizations regarding learning. These constitute the "base upon which televised learning opportunities might be planned" (page 7).

Against this background, the participants examined sample kinescopes as an inventory of current educational programs. "In general, the experience with the kinescopes was more than a little depressing" (page 10).

The group's observations were that

> There was an overemphasis on direct teaching . . . . There was too much answer-giving and not enough question-asking . . . . Very little involvement of any kind was attempted . . . . Too little attention to openness was evident . . . [and] Overemphasis on showmanship characterized many programs [as well as too much] Reliance on conventional time formats (pages 10–12, italics omitted).

What can be done about the situation? The two sections that follow are addressed to this question and, as might be expected, a wide divergence of opinion is expressed. The points of view are well organized, succinctly expressed, and indeed merit the attention of all in the educational-broadcasting field.

The chief merit of this publication is its basic approach. It regards television not as a panacea, a long-awaited teaching automaton, a way of

saving tax dollars, or a device for handling the overflow of children in larger classes. Rather it recognizes that educational television, at least for purposes of effective classroom viewing, will have to be based more on recognized concepts of learning than on superficial "gimmicks." In a growing medium there was perhaps a time for cleverness, but now wisdom is needed.

WILLIAM B. LEVENSON
Cleveland Public Schools

BERELSON, BERNARD. *Graduate Education in the United States.* New York: McGraw-Hill Book Company, Inc., 1960. vi + 346 pp.

Everyone interested in higher education will want to read this important book. Bernard Berelson has performed a great service by presenting the first comprehensive study of graduate education in the United States.

Mr. Berelson, director of the Bureau of Applied Social Research, Columbia University, divides his study into two parts: the past and the present. The whole is sound, urbane, and fascinating. With an easy skill he recounts the early developments through the judicious selection of comments made by educational leaders from 1876 to the present. It is unfortunate that he did not have additional space to explore more deeply the early years of graduate education—there is still need for a substantial history of this topic.

The larger part of his report is a searching and critical study of basic issues in American graduate education. In the main it is based upon a critical analysis of a comprehensive questionnaire which was answered by graduate deans, graduate teachers, college and university presidents, and many others. Through the adroit use of his questions and replies, he examines such matters as the purpose of graduate education, the nature of the institutions offering such work, the traditional requirements for the Master's and Doctor's degrees, and the status of the various degrees. His interpretations may raise eyebrows in certain circles, but many eyebrows need raising.

Berelson's nineteen recommendations based on his analysis should receive careful consideration by teacher and administrator alike. His suggestion that the final examination be eliminated and a ceremonial event such as a public lecture be substituted is worthy of trial; so, too, is his proposal for a degree between the Master's and the Doctor's. Indeed, both have already found favor with Ohio State University's Graduate Council and may be tested next year. It goes without saying that all graduate deans should be given more authority in the general policy-making of their universities.

Many faculty members will quarrel with Berelson's ranking of graduate schools. Certainly a rating by departments would be more valuable, but the position of any given department may change so quickly that such a listing would be almost impossible.

EVERETT WALTERS

AMERICAN ASSOCIATION OF SCHOOL LIBRARIANS. *Standards for School Library Programs.* Chicago: American Library Association, 1960. xviii + 132 pp.

AMERICAN ASSOCIATION OF SCHOOL LIBRARIANS. Committee for Implementation of Standards. *Discussion Guide for Use with Standards for School Library Programs.* Chicago: American Library Association, 1960. 16 pp.

Standards for School Library Programs, a three-year project in which scores of librarians, administrators, and teachers participated, is the answer to an increasing number of requests for a revision of the 1945 standards, *School Libraries for Today and Tomorrow.* Three types of standards are given:

> (1) principles of policy and practice that make the library program an educational force in the school; (2) principles of administration and organization that make the school library an efficient tool; and (3) specifications for the staff, materials collections, funds, quarters, and equipment required for the translation of principles into action (pages 6–7).

The publication is thorough in coverage; it presents the specific responsibilities of citizens, state school boards, chief state school officers, boards of education, superintendents of schools, school principals, state and local school library supervisors, school librarians, and other workers in the library, curriculum co-ordinators, classroom teachers, special teachers, and directors of programs for the professional education of teachers. Throughout, emphasis is given to the most important function of the library—the work with students and teachers.

"The true concept of a school library program means instruction, service, and activity throughout the school rather than merely within the four walls of the library quarters" (pages 14–15). The librarian is no longer a mere keeper of the books but a person working closely with teachers, guidance counselors, and administrators to build a library collection that contributes to the achievement of the school's objectives. She guides students in their reading (and in some schools, their listening and viewing); teaches students to use library resources intelligently and efficiently, thus helping them to develop a lifetime habit of library usage; serves as a materials resource person on curriculum development and textbook committees; and is a member of policy-making committees that plan the educational program of the school. With these widened responsibilities, she needs to be aware of educational trends as well as developments in her own field. A five-page bibliography suggests materials with which she should be acquainted.

Quantitative standards are given for both established and new schools with an enrollment of two hundred or more students, and for schools having fewer than two hundred students. These represent a very good library rather than an average one, and thus they are higher than state and

local standards. Although they have already been met and surpassed by a few schools, in many instances they will require careful planning and considerable effort over a period of years.

It is the school librarian's responsibility to interpret these standards to others concerned with school library service and to develop plans which will implement these goals. A *Discussion Guide,* based on *Standards for School Library Programs,* offers specific suggestions for planning and conducting meetings at the national, state, and local levels. The five major areas for discussion are: "How Can the School Library Contribute to the Objectives of Education?" "What Constitutes a Good School Library Program?" "What Quantitative Provisions Must Be Made to Provide Effective School Library Programs?" "Who Must Assume Responsibility for Providing Effective School Library Programs?" and "What Plan of Action Will Bring About Good School Library Programs?"

EUNICE LOVEJOY

VAN WESEP, H. B. *Seven Sages: the Story of American Philosophy: Franklin, Emerson, James, Dewey, Santayana, Peirce, Whitehead.* New York: Longmans, Green and Company, 1960. xiv + 450 pp.

> The first purpose of this book is to make it clear that America does have a philosophy of its own. . . . The second and main purpose . . . is to dig into the contents of this American philosophy, show what its main tenets are, why its central significance has never changed, and how this philosophy has managed to keep on strengthening itself and growing (page ix).

Van Wesep holds that the basic characteristic of American philosophy is "meliorism, or the belief that the world can be made a better place to live in" (page 359). He suggests that in this respect American philosophy is a continuation of the democratic voice that spoke in Greece. One aspect of the idealized side of the philosophy of meliorism is secularism. Van Wesep says that "It [secularism] represents one of the ideals implicit in the American idea, and actually embodied in the American political set up" (page 114). By way of evidence that we are growing and strengthening that goal, the author insists on a kind of organic unity and continuity among the philosophers selected for comment. Van Wesep insists that he is not treating ". . . seven different philosophies and seven different men, so much as one philosophy at which seven men were working, each advancing and strengthening the emerging structure" (page 55).

The author's insistence on this last point strikes me as an indefensible tour de force which weakens the effectiveness of the whole book. I agree that philosophy is not entirely free of cultural conditioning, at least in the sense of those commitments which give a philosopher a sense of direction. But the political pluralism of our society certainly allows for a pluralism of ideals—ideals which may be mutually incompatible. Unfortunately, Van

Wesep is seeing too much of his own ideals in the men he treats. His personal convictions and ideals are easily identifiable in the book. Van Wesep's concept of philosophy in a democracy is basically secularist and pragmatic. To find historical evidence for those views in Franklin and especially Emerson is accurate enough. But to think that Santayana is advancing that tradition is just a bit too much. Van Wesep himself seems a bit uneasy in his treatment of Santayana: "Santayana breathed the spirit of Plato and Aristotle but his accent was American" (page 251).

I suppose my main objection to the book is contained in the phrase "the basic American philosophy." True, we talk of Greek philosophy as encompassing a divergent set of philosophies. But I doubt that we think of Plato or Aristotle as carrying Greek philosophy a little further. As part of its cultural strength, America can and ought to give voice to philosophers and philosophies which in retrospect may be called American. But there is something intellectually debilitating about the idea that there is "an American philosophy" which American philosophers ought to continue to develop.

ANTHONY NEMETZ

BONNEY, MERL E. *Mental Health in Education*. Boston: Allyn and Bacon, Inc., 1960. xiv + 434 pp.

The reader may be surprised at not finding the material in this book organized according to age levels. The years from kindergarten through high school are considered, but the artificial grouping often found in such a textbook is avoided. Although *Mental Health in Education* is addressed particularly to school personnel, because of its clarity and its objective point of view it will probably have a somewhat wider appeal. The author approaches mental health through developmental and educational channels in the group frame of reference rather than in the strictly individualistic or clinical one. For this reason, the suggestions may be applied by persons trained in the methods of public education.

The bibliographic references are well chosen and up-to-date. Lists of relevant films are supplied with each chapter and suggestions are made as to where the films may be secured for local use. The films referred to represent the best available at the time. A sentence synopsis, including the time required for showing, is provided for each film. In addition, the book contains many appropriate references to related research.

It is noteworthy that Mr. Bonney encourages the regular teacher to remain a teacher, but one oriented toward methods of group approach to pupil adjustment. So often, an author seems to regret that all his readers are not clinicians; this author accepts the teacher as a teacher and shows him how to make the best use of his own medium of approach to children —the group approach. His goal is the development of socially competent individuals.

A chapter is reserved for the teacher himself. Here teachers are urged to see this new approach to their task as a means of achieving greater personal development for themselves and greater competence in their teaching.

In every respect this book merits the attention of teachers and school officials who hope to see the school become a significant force in the positive mental health of their pupils and their communities.

EMILY L. STOGDILL

SARASON, SEYMOUR B., *et al. Anxiety in Elementary School Children: a Report of Research*. New York: John Wiley and Sons, Inc., 1960. vii + 352 pp.

Anxiety has long been a favorite concept in clinical psychology. It has been widely used to explain some of man's predispositions to mental illness and to describe the sometime maladjustive patterns of behavior among individuals who usually enjoy favorable mental health. Thus the roots of this clinically useful concept are deeply embedded in classical psychoanalytic theory.

Within the last decade psychologists in laboratory experiments have been systematically examining the theoretical properties and empirical correlates of anxiety. The customary procedure has been to develop a paper-and-pencil test of anxiety as it is assumed to be manifested in everyday behavior, to select high- and low-anxious groups from individuals taking the test, and then to demonstrate that these groups respond differently to laboratory exercises or to other psychological tests. The cue properties of anxiety have been generally ignored.

Sarason and his collaborators have chosen to study anxiety as a molar concept with acknowledged cue properties. They state very clearly their debt to psychoanalytic theory:

> The most obvious manner in which our thinking has been influenced by psychoanalysis will be seen in our conception of the anxious response as a conscious danger signal associated not only with an external danger but also with unconscious contents and motivations the conscious elaboration of which is inhibited or defended against because such elaboration would place the individual in an even more dangerous relation to the external world (page 6).

This viewpoint has oriented Sarason and his co-workers toward a developmental approach in studying the influence of anxiety on behavior within a relatively specific environmental setting. They chose "test anxiety" as a focus for their investigations because "the test situation *frequently* evokes the anxious response *at a strength* which should allow us to evaluate our theoretical conceptions about the significances of anxiety in the organization and development of personality" (page 10), and because they believed that a valid methodology for assessment would have relevance to the general problem of test-taking attitudes and reactions.

The Test Anxiety and the General Anxiety Scales developed in their laboratory have test-retest reliabilities approximating .67 and .72, respectively. This degree of precision is recognized as being adequate for experimentation with groups but probably too low for reliable diagnosis of individual pupils. The authors conclude:

> It was discouraging to us, but not at all surprising, that after a number of years of research we did not feel justified in beginning a systematic attack on the practical problems [that follow:]
>
> . . . . . .
>
> (1) to pick out those children whose school performance suffers because of disabling personality factors, (2) to pick out those children whose early school performance appears adequate but whose later school performance and behavior will reflect personality disturbance, and (3) to determine the ways in which the classroom situation can be used to help those children who have disabling reactions and attitudes toward school (page 263).

Even though the authors have admittedly not solved these pressing psychological and educational problems, they have broken ground in the area of test anxiety in a most impressive manner. Their research is sound and it is to their credit that they have been conservative in drawing broad educational implications from their limited findings.

There now seems to be little doubt that a good many intellectually able pupils perform inadequately in school because of the crippling and paralyzing effects of test anxiety. Sarason and his collaborators have provided a carefully conceived elaboration of this important problem. They have done the spadework in constructing instruments for measuring some facets of this important dimension of human response, and have, in many instances, suggested next steps for further research. This scholarly report should become a classic in its field.

GEORGE G. THOMPSON

CORSON, JOHN J. *Governance of Colleges and Universities*. New York: McGraw-Hill Book Company, Inc., 1960. vii + 209 pp.

The analysis of the governing processes in colleges and universities is long overdue. As might be expected, impetus for the study of administration in higher education comes from individuals such as Corson, who is the director of a management consulting firm with a primary interest in business and governmental enterprises. The author recognizes that the institution of higher education and the business firm are comparable in that both are organized to accomplish a specific purpose through a defined process, using the resources of men, money, materials, and time. At this point, however, the similarities between the organizations stop. Corson notes that the college is different because of its multiple purposes, its diverse functions, and its diffused responsibilities. The purpose of the book is to explore these "distinctive characteristics of the university as an administrative enterprise" (page 41).

Governance in higher education includes the roles of policy-makers and executives, the internal functioning of the administrative process, and the influence of external social forces on the organization. The author does not presume to evaluate and solve the problems of university administration. Rather he systematically describes roles, processes, and influences within the total context of governance, and then poses some interesting questions for further investigation. These questions can be summed up in a statement which reflects both the dilemma and the distinction of the college or university: "Can it, on the one hand, develop a systematic organization to coordinate all its members in achieving its purpose while, on the other hand, stimulating and facilitating the enterprise of each member?" (page 18).

The final chapter of the book suggests that this all-pervading question is answered in part by what the author refers to as "institutional character." This is defined as ". . . the complex of 'commitments that have been accepted in the course of adaptation to internal and external pressures'" (page 179). Presumably this kind of institutional character is fostered by educational leadership, but the nature of leadership which builds integrity is left as another problem for further research.

The sources of information for this book are the author's visits to ten different institutions of higher education, his broad experience in public administration, and a comprehensive review of the literature. Consequently, the book is not intended to be a substitute for the kind of analytical research that is needed concerning the administration of higher education. For accurately describing the organizational versus the personal dilemma of growing colleges and universities and for isolating specific questions related to the dilemma, this reviewer concurs with others who have said that the book has "landmark character." Its readability is surpassed only by the stimulus it gives to the development of research hypotheses for obtaining objective data on administrative forms and functions in higher education.

DAVID L. MCKENNA

Information Recognition

[*Continued from page 201*]

the lower-curiosity group. Their I.Q.'s were 105 and their ages differed by only a few days. These illustrations could be multiplied but they are enough to indicate the difficulty of predicting individual accomplishments from I.Q. alone.

Whether there are ways in which teachers can increase curiosity in their pupils cannot be readily answered. Much more

information regarding the nature of curiosity needs to be obtained. The authors are continuing their investigation in hopes of answering questions such as this one.

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Higher Education, 1978—an Enrollment Forecast

[*Continued from page 205*]

enrolled in colleges and universities as the total college-age population for 1960—467,036 as against 475,990. The figure for United States enrollment in 1978 should exceed the total college-age population in 1960—9,217,217 as against 9,167,801.

Clearly the increases in college attendance will be considerable. This report does not attempt to predict how individual institutions will be affected.[3] It does, however, provide administrators and other officials with some basis for planning in the years ahead.

[3] To make institutional projections, *see* Lins, L. J. *Methodology of Enrollment Projections for Colleges and Universities.* American Association of Collegiate Registrars and Admissions Officers, March, 1960. (Available through American Council on Education).

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Do You Need an Audio-Visual Instructor?

[*Continued from page 208*]

familiar with and sensitive to the problems that exist on the local level. The competencies and the skills for this kind of leadership could very easily be made available to these persons through the graduate programs of teacher-training institutions. That such programs in the state of Ohio, as in so many other states, are nonexistent in almost all of our leading institutions, reflects our failure to meet a real need at the local level. Less than a half dozen graduate schools in the entire country supply the overwhelming percentage of professional persons trained at the level of competency indicated here. If graduate schools do not, of their own volition, design programs to meet these needs, the school boards and administrators who face this problem daily must insist that adequate programs be organized.

Each school-board member, each administrator, and each teacher must face up to and answer for himself the question initially posed: Do you need an audio-visual director?

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